

### **DETAILED ACTION**

It is to be noted that for completeness of the action history, the following action includes **both** examiner's amendments agreed upon on 03/06/10 and newly added examiner's amendment that were agreed upon on 06/01/10.

### **SUPPLEMENTAL EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Clifford Mass on 03/06/10.

The application has been amended as follows:

Claim 1, line 2, please cancel "of" and insert in its place --for--.

Claim 3, line 2, please cancel "of" and insert in its place --for--.

Claim 4, line 2, please cancel "of" and insert in its place --for--.

Claim 22, line 5, please cancel "of" and insert in its place --for--.

Claim 22, line 14, please cancel "which is regenerable" and insert in its place --which are regenerated--.

Claim 22, line 14 please cancel "by air spent in the fuel cells".

2. The following Examiner's amendment is in additional to the previous amendment dated 03/06/10.

Art Unit: 1797

Authorization for this examiner's amendment was given in a telephone interview with Clifford Mass on 06/01/10.

The application has been amended as follows:

In the Abstract, please cancel "The air fed for regeneration is heated until a relative humidity of from 15 to 85% is achieved. A device for purifying air for fuel cells comprises an air flow blower connected by means of pipelines and a stop valves to adsorbers provided with an adsorbent of carbon dioxide and connected to an air inlet of a fuel cell, wherein the stop valve is made in the form of switches that provide for the sequential connection of the inlet and outlet of one of the adsorbers to the air flow blower and to the air inlet of the fuel cell respectively, and the outlet of the other adsorber through a heater to the air outlet of the fuel cell. A device for purifying air for fuel cells, comprising an air flow blower, connected by means of pipelines to adsorbers provided with an adsorbent of carbon dioxide and connected to an air inlet of a fuel cell may be made so that the adsorbers, separated one from another by partitions, are positioned in one housing with the possibility of rotating about a longitudinal axis and sequentially connecting at an inlet to the air flow blower and at an outlet through a heater to an air outlet of the fuel cell. The adsorbers may be provided with an adsorbent comprising hydrated zirconium oxide. Thermal insulation may be arranged inside the adsorbers and heaters."

***Allowable Subject Matter***

Claims 1-11, and 22-33 are allowed.

Art Unit: 1797

3. The following is an examiner's statement of reasons for allowance:
4. Regarding claim 1, the prior art teaches a method for purifying air for fuel cells, wherein the starting air is passed through an adsorber with an adsorbent of carbon dioxide, then the adsorbent is regenerated by heating, characterized in that an adsorbent is used in the adsorber.
5. However, the prior art fails to teach or disclose the adsorbent comprising hydrated oxides of transition metals which are regenerated at a temperature of 60-120°C by the air spent in a fuel cell.
6. Regarding claims 3 and 4, the prior art teaches a device for purifying air for a fuel cell but fails to teach that the device comprises all of the claimed features in combination.
7. Regarding claim 9, the prior art teaches a method for purifying air for a fuel cell but fails to teach a method that comprises all of the claimed steps in combination.
8. Regarding claim 22, the prior art teaches a device for purifying air for a fuel cell, comprising: (a) a blower for creating a flow of air; (b) a plurality of adsorbers, including at least first and second adsorbers each of which comprises an inlet and an outlet, each of said first and second adsorbers comprising an adsorbent of carbon dioxide; (c) a fuel cell comprising an inlet and an outlet; (d) at least a first heater; (e) a plurality of pipelines connecting components (a), (b), (c) and (d) such that (i) air flowing from the blower can pass through the adsorbents in at least the first adsorber to purify the air of carbon dioxide, (ii) the purified air can pass through the fuel cell for functioning thereof,

Art Unit: 1797

9. However, the prior art fails to teach or disclose (iii) air spent in the fuel cell can pass through the heater for heating the air and (iv) the heated air can pass through the adsorbents in at least the second adsorber to regenerate them, wherein the adsorbents comprise a hydrated oxide of a transition metal which is regenerable at a temperature of 60-120°C by air spent in the fuel cell.

10. Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to KARLA HAWKINS whose telephone number is (571) 270-5562. The examiner can normally be reached on Monday-Friday 8:30- 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Marcheschi can be reached on 571-272-1374. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1797

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael A Marcheschi/  
Supervisory Patent Examiner, Art Unit 1797

/Karla Hawkins/  
Examiner  
Art Unit 1797